TEMPERATURE OF THE AIR (expressed in degrees Fahrenheit).

The distribution of mean temperature over the United States and Canada for August, 1893, is shown by the dotted isotherms on Chart II; the lines are, however, not drawn for the higher irregular surface of the Rocky Mountain plateau; the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country over which they are drawn; in mountainous regions, such isotherms would be controlled largely by the topography, and it is, therefore, not practicable to present the temperature data in this manner unless a contour map on a

large scale is published as a base chart.

In the table of meteorological data from voluntary observers, the actual mean temperature is given for each station, and in the table of climatological data, both the mean temperatures and the departures from the normal are given for the regular stations of the Weather Bureau. In the latter table the stations are grouped by geographical districts, for each of which is given the average temperature and departure from the normal. The normal for any district or station may be found by adding the departures to the current average when the latter is below the normal and by subtracting when it is above.

For regular stations of the Weather Bureau the monthly mean temperature is the simple mean of all daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes

appended to the tabulated meteorological record.

During August, 1893, the mean temperature was highest in the lower Colorado valley and adjacent country, where it ranged from 91 to 103; it was above 85 over a large part of southern and central California; it was between 80 and 85 over the greater part of Texas; it was at or above 80 in Florida and the southern portion of the east Gulf states. The mean temperature was lowest, viz., from 55 to 60, along the Pacific coast from San Francisco, Cal., to Vancouver Island, and again from the mouth of the Saint Lawrence westward to the northern coast of Lake Superior, and thence northwestward through northern Manitoba, Saskatchewan, and northern Alberta. The mean temperature varied from 65 to 75 at stations in the lowlands of the Rocky Mountain plateau region. DEPARTURES FROM NORMAL TEMPERATURE.

The mean temperature for August was from 1 to 2 above the normal in the middle Atlantic states and New England, and about 1 over the Lake region, and 2 from Manitoba to Alberta. It was below the normal on the Pacific coast and the east Rocky Mountain slope; the greatest deficit being 3.7 at San Francisco, Cal., and 2.2 at Colorado Springs, Colo.; the

greatest excess was 4.2 at Chatham, N. B.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperature for August for a series of years; (2) the length of record during which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for August, 1893; (4) the departure of the current month from the normal; (5) the extreme monthly mean for August during the period of observation and the years of occurrence:

State and station.	(1) Normal for the month of Aug.	(2) Length of record.	(3) Mean for Aug., 1893.	(4) Departure from normal.	(5) Extreme monthly means for August.				
					Highest.	Year.	Lowest.	Year.	
Arizona.	۰	Years.	0	0			0		
Fort Apache	72.4	20	71.0	- I-4	77· I 98·8	1877	67.9	1884	
Fort Mohave	93.6	22	93.8	十 0.2	98.8	1875	89.9	1890	
Whipple Barracks Arkansas.	72.5	22	69. a	— 3. 5	78.9	1879	67.8	1891	
Keesees Ferry	77.9	11	74-4	- 3.5	81.0	т886	74-4	1893	
Fort Bidwell	70.3	22	69.4	- 0.9	73.9	1878	62.6	1876	
Riverside	77.4	11.		[81.5	1885	73.6	1887	

Departures	from	normal	temper	ature	Continued.

Departu	res fr	rom n	orma	temper	-ature-	-Continu	ed.			
	for the Aug.	(2) Length of record.	(3) Mean for Aug., 1893.	ıre from	(5) Extreme monthly means for August.					
State and station.	(1) Normal month of			(4) Departure normal.	Highest.	Year.	Lowest.	Year.		
Colorado.	0	Years		0	0	-00	•	-00		
Las Animas	73.6	10	71.4	- 2.2	77-1	1889	70-4	1884		
Merritts Island	81.1	11	82.4	+ 1.3	83.8	1883	77-9	1892		
Forsyth	78.8	19	79-5	+ 0.7	82.4	1878	73-2	1885		
Boise Barracks Fort Sherman	72.2 66.2	19 9	71·4 66·8	— o.8 + o.6	75· I 68· o	1878 1891	67·3 63·7	1881 1889		
Lafayette	70-4	11	72-3	+ 1.9	74-0	1886	68.2	1885		
Fort Supply	79· I	14	76.0	— 3· I	90.8	1874	76.0	1882, 1893		
Cresco	68.7	20	67.4	- 1.3	72.6	1881	63.1	1885		
Eureka Ranch	77.2	10	73-2	- 4.0	80.8	1889	73-2	1893		
Independence	77.8	21	75-3	— 2·5	85·8 81·7	1874 1888	72.8	1884 1883		
Crand Coteau	81.1	9	78.7	- 2.4	83.6	1883	78.7	1893		
Orono	65.3	23	65.8	+ 0.5	67.5	1881	63. 1	1874		
Maryland.	71-5	22	72.2	+ 0.7	75-7	1871, 1872	68.5	r883		
Michigan. Kalamazoo Missouri.	69.4	16	71.1f		73.0	1881	63.8	1885		
Sedalia	77-0	12	74.2	- 2.8	85.4	1881	72.6	1891		
Fort Custer	69.8	12	72.9	+ 3⋅1	73-8	1891	66-2	1885		
Fort Robinson Genoa (near)	69.9 72.5	10 17	69.7 71.1	- 0.2 - 1.4	74·3 77·6	1881 1886	64.7 68.5	1888 1885		
Browns.	80·2 69·3	21 17	66.0	- 3·3	84·3 72·4	1832 1878	76.5 63.8	1871 1876		
Hanover	66.2	20	64-8	- 1.4	70-4	1881	59.2	1885		
New Mexico. Fort Wingate New York.	70-2	22			7 6.7	1877	65.8	1887		
Cooperstown	66.4 67.7	22 22	64.5 65.4	- 1.9 - 2.3	71·5 71·3	1877 1872	62.4 64.3	1889 1885, 1888		
Lenoir	73-2	20	72· I	- 2.1	77.0	1877	70-0	1890		
Fort Reno	78-6 80-6	9 22	75·2 77·5	— 3·4 — 3·1	83.2 91.0	1886 1874	75·2 75·0	1893 1892		
Oregon. Bandon	57.5	9	56.0	— 1.5	61.1	1891	54-4	1886		
Dyberry	64.9	22	66. I	+ 1.2	68.3	1872	61-2	1889		
Wellsboro	67.9 65.3	22 I4	67.6 63.2	- 0.3 - 2.1	73· I 71· 3	1881 1881	64·4 62·0	1873 1891		
South Carolina. Statesburg	76.7	12	75.2	— 1-5	79-7	1881	73-5	. 1889		
Fort Sully	73· o	22	74-7	+ 1.7	77•4	1871	67.6	1885		
AustinSilver Falls	83·7 78·6	20 7	84.8 77.4	+ I.I - I.2	86. 5 81. 4	1874, 1886 1887	80. o 74. 8	1880 1888		
Terrace	77-4	19	77· I	- o.3	83.8	1888	65-6	1872		
Strafford	67.4	20	65.2	- 2.2	72.6	1884	63.9	1885		
Dale Enterprise	74.5	13	70-4	- 4.1	77-5	1888	67.0	1890		
Fort Townsend	61.4	20	59-3	— 2. I	64.3	1874	58.9	1876		
Embarrass	67.6 69.6	22 22	67.6	— 2·0	73·0 73·2	1876 1881	64-0 64-2	1885, 1890 1885		
Wyoming. Fort Washakie	64-8	11	64.8	- 3.6	72.2	1881	64. I	1888		
TEMPERATURE JANUARY TO AUGUST 1893										

TEMPERATURE, JANUARY TO AUGUST, 1893.

For the period January 1 to August, 31, 1893, the temperature averaged about normal in the Gulf States and over the southern plateau region. In New England, the upper Mississippi valley, over the northern plateau region, and along the north and middle Pacific coasts the temperature averaged 2 to 3 below, and in the middle and south Atlantic states, the Ohio Valley and Tennessee, the Lake region, the Missouri Valley, on the northeast and middle-eastern slopes of the Rocky Mountains, and along the south Pacific coast it averaged 1 below the normal. In the extreme northwest and on the southeast slope of the Rocky Mountains the mean temperature was 1 to 2 above the normal for the period named.

YEARS OF HIGHEST MEAN TEMPERATURE FOR AUGUST. The mean temperature for August, 1893, was the highest on record at Eastport, Me., and Manchester, N. H., and was respectively +1.5 and plus +0.6 above the normal. The highest mean temperature for August occurred generally along the Pacific coast in 1891; over the east part of the middle and southern plateau regions in 1889; over the northern plateau region in 1888; on the northeast slope of the Rocky Mountains in 1882; generally in the central valleys in 1881; in the south Atlantic states and the upper lake region in 1878, and in the middle Atlantic and New England states in 1872.

YEARS OF LOWEST MEAN TEMPERATURE FOR AUGUST. At Keesees Ferry, Ark., Eureka Ranch, Kans., Grand Coteau, La., and Fort Reno, Okla., the mean temperature for the current month was lower, and at Fort Supply, Ind. T., it was as low as ever reported for August during the respective periods of observation. The lowest mean temperature for August was noted on the south Atlantic coast in 1889; generally regions in 1884; over the western plateau region, Oregon, and northern California in 1881; on the south Pacific coast and in the lower Rio Grande valley in 1880; in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and N. H.; Alfred Center, Brookfield, Cooperstown, Factoria of the coast and in the interior of the east Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gulf states in 1879; in Tennessee and Kentucky in 1875; and Interior of the cast Gul in the middle Atlantic and New England states in 1874.

Weather Bureau was 111, at Yuma, Ariz., on the 2d. Maximum temperatures exceeded 100 in central California, southern dance, Wyo. 16th, Pagoda (near), Colo.; Snowville, Utah; Arizona, the northeastern half of Montana and western half of the Dakotas. The lowest maximum was 64 at Eureka, Cal., 79 at Block Island, R. I., and 81 at Nantucket, Mass.

MINIMUM TEMPERATURE.

Minimum temperatures of less than 40 were registered at all stations in southern Idaho, eastern Montana, Wyoming, the Dakotas, and western Nebraska; these usually occurred on the 15th and 16th or 27th and 28th. Similar minima probably occurred at Canadian stations in the Saint Lawrence Valley, as a minimum of 36 is reported from Northfield, Vt. Minimum temperatures of 70 or more were registered at Galveston, Tex., New Orleans and Port Eads, La., Tampa, Jupiter, and Key West, Fla.

RANGES OF TEMPERATURE.

The greatest daily range of temperature is given for each station in the table of data for Weather Bureau stations. The monthly ranges, or the difference between the monthly maximum and minimum, have been largest in Dakota and Montana, viz., 69 at Havre, Mont.; 67 at Miles City, Mont., and Fort Buford, N. Dak., and 66 at Bismarck, N. Dak.; the smallest monthly ranges have been Eureka, Cal., 17; Sacramento, Cal., Winterset, Iowa; Macksville, Kans.; Large Marghand, Miles City, Williams, and Winterset, Iowa; Macksville, Kans.; Large Marghand, City, Eagle Grove, Emmetsburg, Fulton, Galva, Grand Meadow, Greenfield, Humboldt, Iowa Falls, Larrabee, Marghand, Marghand, City, Williams, and Sacramento, Cal., Winterset, Iowa; Macksville, Kans.; Large Marghand, City, Cal., Alles City, Anderson, Cal., Anderson, Ca 22; Galveston, Tex., and New Orleans, La., 21; Port Eads,

Crandon, Wis., fruit and potato vines killed. 7th, Montpelier, Ohio, vines on lowlands killed. 11th, New Salem, N. Dak., damage to garden vegetation, corn, and late wheat on fayette, and Rockville, Ind.; Dubuque, Glenwood, and Montilow ground. 12th, Cross, S. Dak., tender plants, potatoes, and vines killed. 13th, slight damage caused about 10 miles Bronson, Climax, Grand Haven, Hanover, Hastings, North south of Cheboygan, Mich. 14th, East Templeton, Mass., tender vegetation killed and corn injured. 15th, Blooming Grove, Pa., some corn and buckwheat injured. 16th, Lander, Wyo., tomato vines and tender vegetation injured. 25th, Vernonia, Oregon, tender vegetation on lowlands damaged. 28th, Ewing, Nebr., melon and tomato vines killed. 29th, Logansport, Ind., corn on low ground killed; Fayette, Iowa, considerable damage to vegetation on low ground; Long Ohio. 11th, New Salem, N. Dak. 12th, Cross, S. Dak. 13th, Prairie, Minn., vegetation in exposed places slightly dam- Cheboygan (near), Mich.; East Templeton, Mass.; Littleton, aged; Saint Charles, Minn., corn, fruit, and buckwheat vines N. H. 15th, Blooming Grove, Pa.; Randolph, Utah. 16th, killed; Watertown, S. Dak., garden vegetation killed; Hay Lander and Laramie, Wyo. 27th, Britton, S. Dak. 28th,

Springs, Nebr., corn slightly damaged. 30th, Galena, Ill., corn badly injured; Allegan, Mich., corn killed; Grand Haven and Berrien Springs, Mich., vegetation on low ground

damaged; Rock Rapids, Iowa, corn on low ground injured.

The first light frost of the season was reported as follows: 4th, Stamford, Colo.; Berlin Mills, N. H. 5th, Sharon, Wis. 6th, Albion, Arbela, and Lewiston, Mich.; Vernonia, Oregon; Florence, Grantsburg, Medford, Oconomowoc, and Oconto, Wis. 7th, Sycamore and Winnebago, Ill.; Birch Run, Evart, Grayling, and Howell, Mich.; Fife and Lone Rock, Oregon; Harvey, Meadow Valley, and Valley Junction, Wis. 8th, Crystal Falls, Hart, and Manistee (near), Mich.; Green Hill, Ohio; Colfax and Rosalia, Wash. 9th, Sandy Lake Dam, Minn. 10th, Bedford, Mass.; Luverne, Minn.; Cranes Ranch, Nev.; Oakdale, N. H.; Washburn, N. Dak.; Spokane (near), Wash.

11th, Mason City, Iowa; Great Barrington, Taunton, and over the northern districts east of the Rocky Mountains in Winchendon, Mass.; Bismarck (near), Dunseith, Napoleon, 1885; over the east part of the middle and southern plateau and Williamsport, N. Dak.; Heber, Utah. 12th, Black River the middle Atlantic and New England states in 1874.

MAXIMUM TEMPERATURE.

The highest temperature reported by a regular station of the leather Bureau was 111, at Yuma, Ariz., on the 2d. Maximum

15th, Vale, Oregon; Pullman, Wash.; Saratoga and Sun-Chevenne and Sheridan, Wyo.

19th, Ashland and Menomonie, Wis. 21st, Millport, Ohio. 22d, Kennedy, Nebr. 23d, De Smet, S. Dak.; Singletree, Utah. 25d, Kennedy, Nebr. 25d, De Smet, S. Dak.; Singletree, Utan. 25th, Dassel, Minn.; East Portland and Glenora, Oregon; Aberdeen, S. Dak. 27th, Beardsley, Minn.; Havre, Mont.; Bassett, Gering, and Whitman, Nebr.; Ellendale and Jamestown, N. Dak.; Bowdle, Parker, and Piedmont, S. Dak.; Koepenick, Wis. 28th, Julesburg, Colo.; Alta, Panama, Rock Rapids, and Vinton, Iowa; Belle Plaine, Grand Meadow, Hastings Moorhead and Rochester, Minn.; Agos Callager, Hastings, Moorhead, and Rochester, Minn.; Agee, Callaway, Cornlea, Lynch, North Loup, Ravenna, and Valentine, Nebr.; Ashley, Berlin, Cannon Ball, Churchs Ferry, Forman, Gallatin, Larimore, Reynolds, Saint Johns, and Woodbridge, N. Dak.; Faulkton, Flandreau, Forestburg, Howard, Huron, Kimball, Plankington, Rapid City, Rosebud, Sioux Falls, Watertown, and Wolsey, S. Dak.; Pepin, Wis. 29th, Zuck, Colo.; Algona, Ames (near), Audubon, Charles

quette (near), Mich.; Albert Lea, Alma City, Bingham Lake, La., and Key West, Fla., 20; Hatteras, N. C., and Nantucket, Mass., 21. From these outlying stations the monthly averages increase as we proceed inward toward Montana.

FROST.

Frost injurious to vegetation was reported as follows: 6th, mond, La Crosse (near), Shawano, Sparta, and Viroqua, Wis. 30th, Philo and Rantoul, Ill.; Ashboro, Crawfordsville, La-

cello, Iowa; Albion, Alma, Ball Mountain, Benton Harbor, Marshall, Parkville, Paris, Port Huron, and Thornville, Mich.; Farmington, Minn.; Gallatin and Platte River, Mo.; Weeping Water, Nebr.; Kenton, Ohio; Belleville, Cadiz, Columbus, Fond du Lac, Hillsboro, and Watertown, Wis. 31st, Flint, Mich.; Wild Rice, N. Dak.

The first beauty frost of the gasen was reverted as follows:

The first heavy frost of the season was reported as follows: 6th, Barron, Butternut, and Crandon, Wis. 7th, Montpelier, Logansport, Ind.; Fayette and Rock Rapids, Iowa; Medford Junction, and Weston, Wis. and Saint Charles, Minn.; Watertown, S. Dak.; Ashland, Springs, Mich.; Rea. Mo.

Ewing, Nebr.; De Smet, S. Dak.; Meadow Valley, Wis. 29th, Black River Falls, Grantsburg, Medford, Neillsville, Valley 30th, Allegan and Berrien

PRECIPITATION (expressed in inches and hundredths).

and Canada for August, 1893, as determined from reports of Mountains, 61; west Gulf states, 69; extreme northwest, 76; more than 2,000 stations, is exhibited on Chart III. In the northeast slope of the Rocky Mountains, 80. table of miscellaneous meteorological data the total precipitation and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and

subtracting when above.

The precipitation for August is usually greatest along the eastern coast of the Gulf of Mexico, where it exceeds 8.00, and the normal amount exceeds 6.00 along the immediate south Atlantic and middle Gulf coasts. In the Atlantic coast states, all areas in the western lake region and upper Mississippi valley, and in the mountain regions of central New Mexico and southeastern Arizona 4.00 to 6.00 is usually recorded. In all districts east of the Rocky Mountains, and in areas in the southern plateau region, the precipitation for August generally exceeds 2.00. Over the western plateau and Pacific coast districts the monthly average is less than 1.00, save on the extreme north Pacific coast, where it exceeds 2.00. Over a great part of the western plateau region, and in the middle and south Pacific coast states, there is usually an almost entire absence of precipitation in August.

The precipitation for August, 1893, was greatest in South Carolina, and exceeded 10 throughout the coast region of Georgia, half of South Carolina, the interior and southern half of North Carolina; small regions of 10-inch rainfall occur in the center of the Florida Peninsula, in southeastern Alabama, in southern Louisiana, western New Jersey, northern New York, and northern Tennessee. Less than 2 fell in Michigan, southern Wisconsin, eastern Iowa, central Missouri, western Tennessee, western Ohio, Kentucky, Indiana, and Illinois, as also over the southern half of Texas, the Rocky Mountain plateau, and the Pacific coast. No rain whatever seems to have fallen in central and northern California, northern Nevada, western Idaho, eastern Washington, and Oregon.

DEPARTURES FROM NORMAL PRECIPITATION.

Rainfall was in excess of the normal over the greater part of the south Atlantic states, and was about twice the usual quantity on the South Carolina coast. An excess of from 1 to 4 is generally reported from New York and the New England States. A deficiency of 2 or 3 in the Mississippi Valley, Ohio Valley, and upper lake region. An excess of 1 or 2 is reported from northern Texas, but a deficiency from southern Texas.

Considered by districts the monthly precipitation averaged about normal in the middle Atlantic and east Gulf states, the Ohio Valley and Tennessee, over the northern plateau, and on the middle and south Pacific coasts. In districts where the precipitation was in excess, the average percentage of the normal was about as follows: southern plateau region, 164; southeast slope of the Rocky Mountains, 142; south Atlantic states, 133; middle plateau region, 124; lower lake region, 117; New England, 116. In districts where the precipitation was deficient the percentage of the normal was about as follows: upper Mississippi valley, 37; Key West, Fla., and on the north Pacific coast, 42; upper lake region,

The distribution of precipitation over the United States | 47; Missouri Valley, 60; middle-eastern slope of the Rocky

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for August for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for August, 1893; (4) the departure of the current month from the average; (5) and the extremes for August during the period of observation and the years of occurrence:

e		ge for the August.	ecord.	August,	from	(5)	Extremes	s for August.		
), e t	State and station.	verage fo	 Length of record	28	Departure average.	Greatest.		Least.		
ı- V		(I) Av mont	(2) Let	(3) Total	(4) Deg (1)	Am't.	Year.	Am't.	Year.	
-	Arizona.	Inches.	l'ears	Inches.	Inches.	Inches.	.}	Inches		
1	Fort Apache Fort Mohave	3.84 0.64	17	3:43 T.	- 0.41 - 0.64	9·33 3·80 6·34	1878	I.00	1888 1871, 1892	
r	Whipple Barracks	2.91	22	4.30	+ 1.39	6.34	1873 1878	0- 24	1873	
1),	Arkansas. Keesees Ferry California.	5-41	II	3.02	- 2.39	11.53	1888	2- 37	1891	
).	Fort Bidwell	0.13	22 12	0.05	— o. o8	0-42 3-00	1880 1884	0.00	Į.	
e -	Las Animas	1-48	IO	2.11	+ 0.63	3-75	1885	0.06	1889	
	Merritts Island Georgia	5.86	15	4.46	1-40	15-77	1880	1.15	1883	
1	Forsyth	5- 11	19	13-45	+ 8.34	13-45	1893	2.50	. 1888	
f 1	Boise Barracks Fort Sherman	0·22 0·43	19 9	0.00	- 0.22 - 0.43	1.65 1.51	1873 1892	0.00	†	
1	Lafayette	3-79	11	0.77	— 3.02	7.17	1890	0.77	1893	
1	Fort Supply	2.02	14	4 · 37	+ 2.35	5.32	1883	0.35	1874	
נ נ	Cresco	3-11	20	1.20	- 1.91	8- 34	1884	0-92	1889	
	Independence	3·12 2·86	21 11	2.53	— o. 59	7.46 6.60	1885 1887	I.33 0.30	1891 1882	
i	Louisiana. Grand Coteau	3.77	9	5-39	+ 1.62	8.07	1888	0.42	1883	
7	Maine. Orono	3.78	22	3.90	+ 0.12	7-36	1885	0. 53	1883	
r _	Maryland. Cumberland	3.11	22	3.74	+ 0.63	8.09	1882	0.31	1881	
	Michigan. Kalamazoo	2.71	17	0.75	— 1.96	8-94	1885	0.31	1889	
	Missouri. Sedalia	2. 11	15	1.29	— o.82	5.83	1888	0. 29	1892	
t	Montana. Fort Custer Nebraska.	1.10	12	0.00	- 1.10	2.55	1880	0.00	1893	
1	Fort Robinson	1.94	10	1.46	— o-48	3.32	1887	0-90	r886	
L	Genoa (near)	2.63 0.08	22	1.46	— I. 17	5-81	1892 1874	0.45	1881	
-	Carson City	0.08	17	0.11	- 0.02	1.13	1890	0.00	÷	
3	New Hampshire. Hanover	3-50	22	4-85	+ 1.35		1885, 1890	0.42	1876	
1	DemingFort Wingate	1.68 2.06	22	4.38 0.60	+ 2.70 - 1.46	4·38 5·90	1893 1878	0.39 0.24	1892 1888	
L	Cooperstown	3·62 3·24	22 22	7·59 5·76	‡ 3.97 2.52	9·08 7·18	1885 1892	o. 63 o. 37	1876 1876	
,	Lenoir	5-73	21	7.50	+ 1.77	10-20	1886	2. 10	1877	
3	Fort Sill	2·99 3·17	10 21	10. 25 4-70	+ 7.26 + 1.53	10.25 9.73	1893 1888	0. 34 T.	1886 1874	
)	Oregon. Bandon	0- 57	14	0. OI	— o. 56	2- 16	1879	0.00	1888	
	Pennsylvania. Dyberry	4.32	21	4.45	+ 0.13	8.77	1885	0.95 1.66	1883	
,	Grampian Wellsboro	4·44 5·II	16 14	3·26 4·59	- 1.18 - 0.52	8. 19 15. 25	1888 1885	0.83	1883 1889	
-	South Dakota.	4-45	12	14.29	+ 9-84	14.29	1893	1.38	1892	
1	Fort Sully	1.92	22	0- 55	- I·37	5. 26	1880	0- 20	1882	
,	Austin	2. I3 2. IO	21 7	2.10 3.63	- 0.03 + 1.53	6.45 4.29	1892 1888	T. 0.00	1877 1889	